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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/709,714	05/24/2004	Cheng-Hsien Lu	ACMP0045USA	3713
27765 7590 11/19/2007 NORTH AMERICA INTELLECTUAL PROPERTY CORPORATION P.O. BOX 506 MERRIFIELD, VA 22116			EXAMINER SELBY, GEVELL V	
			ART UNIT 2622	PAPER NUMBER
			NOTIFICATION DATE 11/19/2007	DELIVERY MODE ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/709,714	LU ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Gevell Selby	2622	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 04 September 2007.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### *Response to Arguments*

1. Applicant's arguments with respect to claims 1-20 have been considered but are moot in view of the new ground(s) of rejection.

### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. **Claims 1-4, 8, and 10 are rejected under 35 U.S.C. 102(e) as being anticipated by Meek et al., US 6,741,286.**

In regard to claim 1, Meek et al., US 6,741,286, discloses an optical module for a digital camera, the optical module comprising:

- a substrate (see figure 1a, element 12);
- a light sensor (imaging area on the CMOS sensor 12) installed on the substrate for sensing light (see column 2, lines 12-15);
- a lens holder mounted on the light sensor (see figure 1a, element 15);
- a light shield disposed at a position contacting a top surface of the substrate and a bottom end of the lens holder(see figure 1a, element 13); and

a lens installed on the lens holder for focusing light onto the light sensor  
(see figure 1a, element 18).

In regard to claim 2, Meek et al., US 6,741,286, discloses the optical module of claim 1, wherein the light shield is resilient (see column 2, lines 7-10 and 33-39).

In regard to claims 3 and 8, Meek et al., US 6,741,286, discloses the optical module of claims 2 and 7, discloses a camera wherein the light shield and cushion is a rubber pad (see figure 1, element 13 and column 2, lines 33-39).

In regard to claim 4, Meek et al., US 6,741,286, discloses the optical module of claim 1, comprising at least a fixing device (encapsulant) fastened into the substrate and fixing the lens holder to the substrate (see column 2, lines 33-39).

In regard to claim 10, Segawa et al., US 2002/0057468, discloses the optical module of claim 1, wherein the light sensor is a complementary metal oxide semiconductor (CMOS) sensor and the substrate is a printed circuit board (see column 2, lines 4-10).

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. **Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over**

**Meek et al., US 6,741,286, in view of Hunter et al., US 7,088,397.**

In regard to claims 5 and 6, Meek et al., US 6,741,286, discloses the optical module of claim 4. The Meek reference does not disclose wherein the fixing device is a screw of an elastic hook.

Hunter et al., US 7,088,397, teaches having screws (see figure 2, element 232) or elastic hooks (see figure 4A, element 460).

It would have been obvious to one of ordinary skill in the art at the time of invention to have been motivated to modify Meek et al., US 6,741,286, in view of Hunter et al., US 7,088,397, to have wherein the fixing device comprises screws or elastic hooks, in order to guide the lens holder onto the unit and easily secure it in the proper place.

**6. Claims 7 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Meek et al., US 6,741,286, in view of Saitoh, US 2003/0043294.**

In regard to claim 7, Meek et al., US 6,741,286, discloses the optical module of claim 4. The Meek reference does not disclose further comprising at least a cushion disposed between the fixing device and the substrate for reducing impact of the fixing device against the substrate.

Saitoh, US 2003/0043294, discloses an image sensor with a fixing device or screw (see figure 3, element 35) and a cushion or spring washer (see figure 3, element 41) disposed between the fixing device and a substrate (see para 42).

It would have been obvious to one of ordinary skill in the art at the time of invention to have been motivated to modify Meek et al., US 6,741,286, in view of Saitoh, US 2003/0043294, to a screw for the fixing device and at least a cushion disposed between the fixing device and the substrate for reducing impact of the fixing device

against the substrate, in order to eliminate the play between the fixing device and the substrate.

In regard to claim 9, Meek et al., US 6,741,286, in view of Saitoh, US 2003/0043294, discloses the optical module of claim 7. The Saitoh reference discloses wherein the cushion comprises at least a spring (see para. 42).

**7. Claims 11 and 12-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hunter US 7,088,397, in view of Saitoh, US 3003/0043294.**

In regard to claim 11, Hunter US 7,088,397, discloses an optical module for a digital camera, the optical module comprising:

a substrate (see figure 2, element 204);

a light sensor (figure 2, element 210) installed on a top side of the substrate for sensing light (see column 1, lines 62+);

a lens holder mounted on the light sensor (see figure 2, element 230);

a fixing device (see figure 2a, element 232) fastened to a bottom side of the substrate and fixing the lens holder to the substrate; and

a lens installed on the lens holder for focusing light onto the light sensor (see figure 2, element 220).

The Hunter reference does not disclose a cushion installed between the fixing device and the substrate for reducing impact of the fixing device against the substrate.

Saitoh, US 3003/0043294, discloses an image pickup device with a cushion or spring washer (see figure 4, element 41) installed between the fixing device and the substrate for reducing impact of the fixing device against a substrate (see para. 41).

It would have been obvious to one of ordinary skill in the art at the time of invention to have been motivated to modify Hunter US 7,088,397, in view of Saitoh, US 3003/0043294, to have a cushion installed between the fixing device and the substrate for reducing impact of the fixing device against the substrate, in order to eliminate the play between the fixing device and the substrate.

In regard to claim 12, Hunter US 7,088,397, in view of Saitoh, US 3003/0043294, discloses the optical module of claims 11. The Hunter and Saitoh references do not disclose wherein the cushion is made from rubber.

Official Notice is taken that it is well known to one of ordinary skill in the art to use a rubber washer along with a screw with fastening two objects together to eliminate play between the screw and the object while making the device lighter.

It would have been obvious to one of ordinary skill in the art at the time of invention to have been motivated to modify Hunter US 7,088,397, in view of Saitoh, US 3003/0043294 wherein the cushion is made from rubber, in order to make the component lighter.

In regard to claim 13, Hunter US 7,088,397, in view of Saitoh, US 3003/0043294, discloses the optical module of claim 11. The Saitoh reference discloses wherein the cushion comprises at least a spring (see para. 42).

In regard to claim 14, Hunter US 7,088,397, in view of Saitoh, US 3003/0043294, discloses the optical module of claim 11. The Hunter reference discloses wherein the fixing device is a screw (see figure 2, element 232).



In regard to claim 15, Hunter US 7,088,397, in view of Saitoh, US 3003/0043294, discloses the optical module of claim 11. Hunter reference discloses in the invention wherein a fixing device comprises an elastic hook (see figure 4A, element 460).

It would have been obvious to one of ordinary skill in the art at the time of invention to have been motivated to modify Segawa et al., US 2002/0057468, to have wherein the fixing device comprises an elastic hook, in order to guide the lens holder onto the unit and easily secure it in the proper place.

In regard to claim 16, Hunter US 7,088,397, in view of Saitoh, US 3003/0043294, discloses the optical module of claim 11. The Hunter reference discloses further comprising a light shield (see figure 2, element 226) disposed at a position between a top surface of the substrate and a bottom end of the lens holder.

**8. Claims 17 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hunter US 7,088,397, in view of Saitoh, US 3003/0043294, as applied to claim 11 above, and further in view of Segawa et al., US 2002/0057468.**

In regard to claim 17 and 19, Hunter US 7,088,397, in view of Saitoh, US 3003/0043294, discloses the optical module of claims 16 and 11. The Hunter and Saitoh references do not disclose wherein the light shield is resilient, wherein the light sensor is a complementary metal oxide semiconductor (CMOS) sensor and the substrate is a printed circuit board.

Segawa et al., US 2002/0057468, discloses a CMOS image sensor (see figure 2, element 6) wherein the light shield (see figure 2, element 8) is resilient (see para 30 and



31) and the sensor is attached to a substrate (see figure 2, element 1) which is a printed circuit board (see para 28).

It would have been an obvious design decision to one of ordinary skill in the art at the time of invention to modify Hunter US 7,088,397, in view of Saitoh, US 2003/0043294, and further in view of Segawa et al., US 2002/0057468, wherein the light shield is resilient, wherein the light sensor is a complementary metal oxide semiconductor (CMOS) sensor and the substrate is a printed circuit board, in order to align and secure the components together in a compact fashion.

**9. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hunter US 7,088,397, in view of Saitoh, US 3003/0043294, and further in view of Segawa et al., US 2002/0057468, as applied to claim 17 above, and further in view of Meek et al., US 6,741,286.**

In regard to claim 18, over Hunter US 7,088,397, in view of Saitoh, US 3003/0043294, and further in view of Segawa et al., US 2002/0057468, discloses the optical module of claim 17. The references do not disclose wherein the light shield is a rubber pad.

Meek et al., US 6,741,286, discloses the optical module of claim 17, discloses a camera wherein the light shield is a rubber pad (see figure 1, element 13 and column 2, lines 33-39).

It would have been an obvious design decision to one of ordinary skill in the art at the time of invention to modify Hunter US 7,088,397, in view of Saitoh, US 2003/0043294, and further in view of Segawa et al., US 2002/0057468, and further in

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view of Meek et al., US 6,741,286, wherein the light shield is a rubber pad, in order to make the component lighter in weight.

**10. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hunter US 7,088,397, in view of Saitoh, US 3003/0043294, as applied to claim 16 above, and further in view of Meek et al., US 6,741,286.**

In regard to claim 20, Hunter US 7,088,397, in view of Saitoh, US 3003/0043294, discloses the optical module of claim 16. The Hunter and Saitoh references do not disclose wherein the cushion has an elastic constant smaller than that of the light shield, since the hunter reference does not disclose what is used to make the light shield.

Meek et al., US 6,741,286, discloses a camera wherein the light shield is made of rubber (see figure 1, element 13 and column 2, lines 33-39).

It would have been an obvious design decision to one of ordinary skill in the art at the time of invention to modify Hunter US 7,088,397, in view of Saitoh, US 3003/0043294, and further in view of Meek et al., US 6,741,286, wherein the light shield is made of rubber, in order to seal the lens cover to the image sensor with a material lighter and less rigid than metal. Therefore, the metallic cushion will have an elastic constant smaller than that of the rubber light shield.

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***Conclusion***

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gevell Selby whose telephone number is 571-272-7369. The examiner can normally be reached on 8:00 A.M. - 5:30 PM (every other Friday off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lin Ye can be reached on 571-272-7372. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

gvs



LIN YE  
SUPERVISORY PATENT EXAMINER